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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,177	07/06/2000	Howard Barr	SPIRIT.001A	5600

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EXAMINER	
DINH, TIEN QUANG	

ART UNIT	PAPER NUMBER
3644	

DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/611,177	Applicant(s) BARR, HOWARD	
	Examiner Tien Dinh	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: Please note that there is no mentioning of figure 8 in the brief description of the drawings. Figure 8 has not been submitted. Please submit this.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins in view of Berejik et al, Meyer, and the admitted prior art on page 6.

Jenkins discloses a control system for a remote-controlled aircraft with a receiver 26, a control module 35 in communication with the receiver to send out signal to a control flight system, and positioning module 15 (see figure 1, column 3, lines 37-40). The control module is a microprocessor/microcontroller with inherently memory such as RAM (well known in today's computer technology) to store instructions. The control flight system is a servo, rudder, elevator, etc. Although, the Examiner strongly feels that the control modules modifies the control signals

so that the flight pattern is within a set of defined performance parameters, the Examiner will introduce the teaching of Berejik et al (previously cited by the applicant) to show that control modules that modifies control signals to a set of defined performance parameters (see figure 3 and columns 4 and 5). The admitted prior art on page 6 discloses two-axis accelerometers that measure a directional component of the acceleration of gravity to determine the current attitude are well known in the art. The admitted prior art on page 6 also discloses the accelerometer that comprises an inclinometer and accelerometers that measure static acceleration. Meyer discloses that pulse-width modulated signals and signals to change the flight pattern of the aircraft to a predetermined flight pattern in case of emergency or any other situations are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have made the control module of Jenkins modifies the control signals to a set of safe defined performance parameters as taught by Berejik et al to allow the aircraft to operate safely without crashing.

It would have been obvious to one skilled in the art at the time the invention was made to have used pulse-width modulated signals and a computerized system in which modified guidance signals to change the flight pattern of the aircraft to a predetermined flight pattern in case of an emergency or any other situations in Jenkins' system as modified by Berejik et al and as taught by Meyer to allow the aircraft to fly as desired and to prevent the aircraft from crashing.

It would have been obvious to one skilled in the art at the time the invention was made to have used accelerometers disclosed by the admitted prior arts on page 6 in Jenkins' system to know the operating status of the flight vehicle and to prevent damage to it.

Re claims 19, 29, and 39, a straight and level flight is a desired pattern that one skilled in the art could have implemented on the aircraft so that the aircraft can fly to the desired point without causing danger to the aircraft.

Re claim 31, it is obvious to one skilled in the art at the time the invention was made to have made the pulse-width modulated signals aligned with the leading edge to allow the aircraft to fly as desired by the pilot.

Re claim 40, at the time the invention was made, it would have been obvious to one skilled in the art to have the aircraft be in a level flight circular pattern to allow the aircraft be in a desired area so that the aircraft can not be lost.

Re claims 20, 21, at the time the invention was made, it would have been obvious to one skilled in the art to have the aircraft not turn at an angle greater than 20, 30, 40, 50, 69, 70, 80, and 90 to prevent a certain aircraft be out of control.

Response to Arguments

In response to the applicant's amendments, the Examiner has introduced the known products as disclosed in the admitted art (page 6) to reject the new claims. This renders applicant's arguments moot.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Meyers teaches the use of pulse width modulated signals and entering a predetermined flight pattern in case of emergency are well known. Berejik et al teaches control modules that modifies control signals to a set of defined performance parameters are well known. The admitted prior art on page 6 discloses that certain types of accelerometers are well known. By combining the above references with Jenkins, Jenkins' flight vehicle will be easier to control and be much safer in prevent damages. This would be obvious to one skilled in the art. Taken as a whole, this would lead one skilled in the art to have modified control signals by knowing the positioning signals corresponding to the attitude of the aircraft.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tien Dinh whose telephone number is 703-308-2789. The examiner can normally be reached on 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan can be reached on 703-306-4159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-306-4195 for regular communications and 703-306-4195 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-4195.

TD
June 29, 2003

Tien Dinh